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ABSTRACT

A student's age, sex, aspiration, and ability were related to successful performance (50th percentile or higher) on the College Level Examination Program (CLEP) general examinations. Previous college credits and attendance status, as measured, did not seem to be important factors. Of the variables investigated, ability, as measured by the American College Test (ACT), seemed to have the strongest relationship to CLEP success. From the results obtained it was concluded that success on the general CLEP exams is dependent more on ability than previous experience. The high level performance by the younger students seemed to indicate that more recent exposure to formal education is related to success. (Author/SM)

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# CHARACTERISTICS OF STUDENTS BY CLEP PERFORMANCE

On June 5 and 12, 1971, the College Level Examination Program tests were administered to 730 students who had previously attended, were currently attending, or anticipated attending the City Colleges of Chicago. The success rates on the CLEP examinations administered were:

| | Per Cent Successful | Total Number Taking Exam |
|---|---|---|
| English | 29 | 438 |
| Humanities | 37 | 490 |
| Natural Sciences | 35 | 309 |
| Social Sciences-History | 41 | 402 |

At the time of testing each student was asked to complete a brief questionnaire relating to certain student characteristics. In each of the four examination areas 95 per cent or more of the students responded. The success rate for those students answering the questionnaire was the same as for the total group taking each exam except for the Humanities exam where the success rate was 37 per cent for the total group and 36 per cent for the students completing the questionnaire. The following comparisons contrast various characteristics of those students who successfully completed the CLEP exam, i.e., scored at the 50th percentile or higher using the national sophomore level norms and received CCC credit, with those students who were unsuccessful, i.e., scored below the 50th percentile using the same norms and did not receive CCC credit.

Each of the per cents given in Tables I through V are based on the total number answering the item by examination. In

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Table VI the ACT means and standard deviations are based only on the number indicated, i.e. those students who had taken the ACT.

Sex

Table I gives the number and per cent of each sex taking each exam as well as their performance. A comparable number of males and females took each examination with the greatest variability being in the natural science exam, 57 per cent males vs. 43 per cent females.

Table I

Performance by Sex and CLEP Examination
(Per Cents in Parentheses)

| | Unsuccessful | | | Successful | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Male | Female | Tot. | Male | Female | Tot. | Male | Female | Tot. |
| English | 163 (82) | 138 (62) | 301 (71) | 37 (18) | 84 (38) | 121 (29) | 200 (47) | 222 (53) | 422 |
| Humanities | 177 (73) | 127 (55) | 304 (64) | 66 (27) | 106 (45) | 172 (36) | 243 (51) | 233 (49) | 476 |
| Natural Sciences | 102 (58) | 97 (74) | 199 (65) | 74 (42) | 34 (26) | 108 (35) | 176 (57) | 131 (43) | 307 |
| Social Sciences-History | 112 (52) | 113 (67) | 225 (59) | 102 (48) | 56 (33) | 158 (41) | 214 (56) | 169 (44) | 383 |

A study of the success rates by sex indicates that women are about two times more successful than the men in English (38% vs. 18%) and Humanities (45% vs. 27%) whereas the men are more successful in Natural Sciences (42% vs. 26%) and Social Sciences-History (48% vs. 33%).

Age

A study of the "total" age distribution in Table II shows that the age categories of "18-21" and "26 and over" contain the greatest frequency in each exam. As could be expected, the smallest number of students were "less than 18 years of age," probably advanced placement students.

TABLE II

Performance by Age and CLEP Examination
(Per Cents in Parentheses)

| | Unsuccessful | | | | | Successful | | | | | Total | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less 18 | 18-21 | 22-25 | 26, Over | Tot. | Less 18 | 18-21 | 22-25 | 26, Over | Tot. | Less 18 | 18-21 | 22-25 | 26, Over | Tot. |
| English | 26 (63) | 99 (70) | 63 (72) | 113 (74) | 301 (71) | 15 (37) | 43 (30) | 24 (28) | 39 (26) | 121 (29) | 41 (10) | 142 (34) | 87 (21) | 152 (36) | 422 |
| Humanities | 16 (53) | 116 (67) | 71 (65) | 101 (62) | 304 (64) | 14 (47) | 58 (33) | 38 (35) | 62 (38) | 172 (36) | 30 (6) | 174 (37) | 109 (23) | 163 (34) | 476 |
| Natural Sciences | 15 (48) | 62 (58) | 47 (64) | 75 (79) | 199 (65) | 16 (52) | 45 (42) | 27 (36) | 20 (21) | 108 (35) | 31 (10) | 107 (35) | 74 (24) | 95 (31) | 307 |
| Soc. Science-History | 13 (38) | 75 (58) | 55 (60) | 82 (64) | 225 (59) | 21 (62) | 54 (42) | 37 (40) | 46 (36) | 158 (41) | 34 (9) | 129 (34) | 92 (24) | 128 (33) | 383 |

The success rates by age groups seem to indicate that the older student does not perform better on the CLEP general examinations. The younger students (less than 18) were more successful on each examination than any other age category. Except for the Humanities exam, as age increased the success rate decreased.

College Credits Previously Earned

Approximately 6 of every 10 students taking each exam had previously earned 1 to 30 semester hours of college credit. The range from 1 to 15 hours showed the greatest frequency in each

exam area. These figures are shown in Table III. There does not seem to be any relationship between number of college credits previously earned and performance on the CLEP, with the possible exception of the area of Natural Sciences, where the older age groups performed 6 to 15 percentage points higher than those students who had not previously earned any college credits.

TABLE III

Performance by College Credits Previously Earned and CLEP Examination (Per Cents in Parentheses)

| | Unsuccessful | | | | | Successful | | | | | Total | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | None | 1-15 | 16-30 | 31 & Over | Tot. | None | 1-15 | 16-30 | 31 & Over | Tot. | None | 1-15 | 16-30 | 31 & Over | Tot. |
| English | 66 (74) | 124 (72) | 67 (70) | 44 (69) | 301 (71) | 23 (26) | 49 (28) | 29 (30) | 20 (31) | 121 (29) | 89 (21) | 173 (41) | 96 (23) | 64 (15) | 422 |
| Humanities | 40 (60) | 104 (69) | 83 (61) | 77 (63) | 304 (64) | 27 (40) | 47 (31) | 53 (39) | 45 (37) | 172 (36) | 67 (14) | 151 (32) | 136 (29) | 122 (26) | 476 |
| Natural Sciences | 42 (75) | 63 (60) | 49 (69) | 45 (60) | 199 (65) | 14 (25) | 42 (40) | 22 (31) | 30 (40) | 108 (35) | 56 (18) | 105 (34) | 71 (23) | 75 (24) | 307 |
| Soc.Science-History | 42 (61) | 68 (57) | 59 (60) | 56 (58) | 225 (59) | 27 (39) | 51 (43) | 40 (40) | 40 (42) | 158 (41) | 69 (18) | 119 (31) | 99 (26) | 96 (25) | 383 |

CCC Enrollment Status

As shown in Table IV, more than 8 out of every 10 students taking the CLEP exams were current or former CCC students, while less than 2 out of every 10 students were prospective CCC students. Over 70 per cent of the students taking each exam are currently enrolled CCC students.

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TABLE IV

Performance by CCC Enrollment Status
and CLEP Examination
(Per Cents in Parentheses)

| | Unsuccessful | | | | Successful | | | | Total | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Current | Former | Prospective | Tot. | Current | Former | Prospective | Tot. | Current | Former | Prospective | Tot. |
| English | 217 (70) | 25 (76) | 57 (75) | 299 (71) | 94 (30) | 8 (24) | 19 (25) | 121 (29) | 311 (74) | 33 (8) | 76 (18) | 420 |
| Humanities | 242 (65) | 23 (70) | 38 (58) | 303 (64) | 132 (35) | 10 (30) | 28 (42) | 170 (36) | 374 (79) | 33 (7) | 66 (14) | 473 |
| Natural Sciences | 145 (64) | 18 (62) | 36 (73) | 199 (65) | 83 (36) | 11 (38) | 13 (27) | 107 (35) | 228 (75) | 29 (9) | 49 (16) | 306 |
| Soc.Science-History | 168 (59) | 15 (45) | 42 (65) | 225 (59) | 115 (41) | 18 (55) | 23 (35) | 156 (41) | 283 (74) | 33 (9) | 65 (17) | 381 |

In comparing the successful students by "CCC status" there are no major differences among the various status categories with the exception that a greater percentage of "former students" (55%) performed successfully in the Social Sciences-History exam than the "current students" (41%) and "prospective students" (35%).

## Highest Educational Aspiration

More than 3 out of every 4 students taking the CLEP examination have as an aspiration, the attainment of a bachelor's degree or a higher degree. As indicated in Table V, about one-half of all students have a bachelor's degree as their primary goal. Very few students (less than 10%) are seeking a diploma or certificate.

TABLE V

Performance by Highest Educational Aspiration
and CLEP Performance
(Per Cents in Parentheses)

| | Unsuccessful | | | | | | Successful | | | | | | Total | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dip. or Cert. | AA | Bach. | M | Beyond M | Tot. | Dip. or Cert. | AA | Bach. | M. | Beyond M. | Tot. | Dip. or Cert. | AA | Bach. | M. | Beyond M. | Tot. |
| English | 28 (90) | 41 (85) | 127 (69 | 49 (58) | 29 (64) | 274 (70) | 3 (10) | 7 (15) | 57 (31) | 35 (42) | 16 (36) | 118 (30) | 31 (8) | 48 (12) | 184 (47) | 84 (21) | 45 (11) | 392 |
| Humanities | 17 (47) | 40 (74) | 126 (61) | 55 (52) | 33 (63) | 271 (62) | 5 (23) | 14 (26) | 79 (39) | 50 (48) | 19 (37) | 167 (38) | 22 (5) | 54 (12) | 205 (47) | 105 (24) | 52 (12) | 408 |
| Natural Sciences | 19 (83) | 17 (81) | 90 (64) | 30 (50) | 18 (53) | 174 (62) | 4 (17) | 4 (19) | 51 (36) | 30 (50) | 16 (47) | 105 (38) | 23 (8) | 21 (8) | 141 (51) | 60 (22) | 34 (12) | 279 |
| Soc.Science-History | 19 (86) | 33 (82) | 98 (59) | 31 (40) | 20 (47) | 201 (57) | 3 (14) | 7 (18) | 69 (41) | 47 (60) | 23 (53) | 149 (43) | 22 (6) | 40 (11) | 167 (48) | 78 (22) | 43 (12) | 350 |

As indicated by a study of the successful students, the higher the aspiration (through the master's degree), the higher the success rate. This fact seems to indicate substantial correlation between success on the CLEP and educational aspiration. It is also interesting to note the "no responses" to this item by performance:

| | No Response | | Total N |
|---|---|---|---|
| | Unsuccessful | Successful | Excluding "No Response" |
| English | 27 | 3 | 392 |
| Humanities | 34 | 5 | 438 |
| Nat. Sci. | 26 | 3 | 279 |
| Soc.Sci.-History | 24 | 9 | 350 |

ACT Scores

As shown by the ACT means of the successful and unsuccessful groups in Table VI, and substantiated by the correlations in Table VII, there is a significant relationship between CLEP performance and ACT performance. Not only is the mean performance of the successful group on each ACT test higher in each CLEP subject area, but within the successful group those students who scored above the 74th percentile on CLEP, in every instance, had a correspondingly higher mean on each ACT test than those students who scored between the 50th and 74th percentile on CLEP.

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TABLE VI

Performance by Mean ACT Scores and CLEP Examination

| CLEP EXAM | ACT TEST | UNSUCCESSFUL Below 50th %ile on CLEP Mean | S.D. | SUCCESSFUL %ile 50-74 on CLEP Mean | S.D. | %ile 75 and above on CLEP Mean | S.D. |
|---|---|---|---|---|---|---|---|
| | | (N=73) | | (N=15) | | (N=11) | |
| English (N=99) | ENG. | 17.1 | 4.88 | 24.0 | 1.96 | 25.8 | 3.57 |
| | MATH. | 16.6 | 6.37 | 22.4 | 4.97 | 24.1 | 6.61 |
| | SOC.ST. | 19.5 | 6.14 | 24.4 | 3.50 | 27.1 | 3.99 |
| | NAT.SC. | 18.8 | 5.95 | 23.8 | 4.57 | 27.2 | 4.02 |
| | COMP. | 18.2 | 4.59 | 23.7 | 2.99 | 26.2 | 3.34 |
| | | (N=87) | | (N=28) | | (N=13) | |
| Humanities (N=128) | ENG. | 17.6 | 4.99 | 22.3 | 3.35 | 23.8 | 3.79 |
| | MATH. | 16.8 | 6.61 | 20.1 | 5.96 | 23.0 | 5.45 |
| | SOC.ST. | 18.4 | 6.28 | 23.0 | 3.68 | 27.7 | 3.92 |
| | NAT.SC. | 18.6 | 5.49 | 20.9 | 4.44 | 26.3 | 4.59 |
| | COMP. | 18.0 | 4.73 | 21.7 | 2.72 | 25.5 | 3.18 |
| | | (N=53) | | (N=15) | | (N=5) | |
| Natural Sciences (N=73) | ENG. | 16.5 | 5.69 | 20.9 | 4.08 | 22.8 | 3.83 |
| | MATH. | 16.5 | 5.61 | 21.7 | 4.46 | 25.0 | 6.86 |
| | SOC.ST. | 19.1 | 6.22 | 22.7 | 5.46 | 26.4 | 6.54 |
| | NAT.SC. | 18.0 | 4.28 | 22.5 | 4.45 | 25.6 | 7.64 |
| | COMP. | 17.7 | 4.25 | 22.2 | 3.17 | 25.2 | 5.85 |
| | | (N=69) | | (N=21) | | (N=16) | |
| Soc. Sci.- History (N=106) | ENG. | 17.5 | 5.30 | 21.3 | 5.13 | 22.4 | 3.50 |
| | MATH. | 16.2 | 5.37 | 21.3 | 5.88 | 23.1 | 6.47 |
| | SOC.ST. | 18.4 | 5.93 | 25.3 | 3.89 | 27.1 | 4.42 |
| | NAT.SC. | 17.9 | 4.70 | 20.8 | 4.98 | 24.5 | 5.97 |
| | COMP. | 17.7 | 4.02 | 22.4 | 3.90 | 24.4 | 4.21 |

In a comparable study (CLEP Examination Review, Sept., 1970), Dr. Charles Lindblade studied the correlations between CLEP scores and ACT composite score. A comparison of these correlations with the current correlations follows:

| | CLEP Correlations with ACT Composite | |
|---|---|---|
| | '70 | '71 |
| English | .84 | .73 |
| Humanities | .30 | .61 |
| Natural Science | .66 | .61 |
| Soc. Science-History | .50 | .57 |

Because of the larger number involved in this present study, the correlations obtained should be more stable. Except for the humanities area, there is not too much variability when comparing the two sets of correlations.

A study of the correlations and standard errors in Table VII indicates that all of the correlations are significant. It is interesting to note the comparable size of many of the correlations of about .50. The strongest correlation is between English CLEP and English ACT, .76. The lowest is between CLEP Social Sciences-History and ACT Natural Science, .37.

TABLE VII

CLEP Correlations with ACT
(Standard Errors in Parentheses)

| | ACT | | | | |
|---|---|---|---|---|---|
| | English | Math. | Soc. St. | Nat. Sc. | Composite |
| CLEP English (N=99) | .7575 (.0427) | .5299 (.0726) | .5742 (.0682) | .5794 (.0670) | .7261 (.0472) |
| CLEP Humanities (N=128) | .5604 (.0607) | .4063 (.0736) | .5569 (.0607) | .4802 (.0681) | .6115 (.0556) |
| CLEP Nat. Sci. (N=73) | .4875 (.0894) | .5376 (.0833) | .4923 (.0894) | .4871 (.0894) | .6064 (.0739) |
| CLEP Soc. Sci.-History (N=106) | .4656 (.0764) | .4550 (.0773) | .5576 (.0673) | .3688 (.0846) | .5676 (.0662) |

Summary

This study indicates that a student's age, sex, aspiration, and ability are related to successful performance (50th percentile or higher) on the CLEP general examinations. Previous college credits and attendance status, as measured, do not seem to be important factors. Of the variables investigated, ability, as measured by the ACT, seems to have the strongest relationship to CLEP success. From the results obtained it can be concluded that success on the general CLEP exams is dependent more upon ability than previous experience. The high level performance by the younger students would seem to indicate that more recent exposure to formal education is related to success.

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